Appl. No. 09/675,427
Amdt. dated April 11, 2005
Supplemental Amendment

## Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

## Listing of Claims:

1.     (Currently Amended): A computer implemented method for statistical modeling and simulation of the impact of global variation and local mismatch on the performance of integrated circuits, comprising the steps of:

    (a)     estimating a representation of component mismatch from device performance measurements in a form suitable for circuit simulation;

    (b)     reducing the complexity of statistical simulation by performing a first level principal component or principal factor decomposition of global variation, including screening;

    (c)     further reducing the complexity of statistical simulation by performing a second level principal component decomposition including screening for each factor retained in step (b) to represent local mismatch; and

    (d)     performing statistical simulation with the joint representation of global variation and local mismatch obtained in step (c).

Claims 2 to 3 (Canceled)

4.     (Original): The method of claim 1 where the first principal component or principal factor decomposition is performed using eigenvalue eigenvector decomposition.

5.     (Original): The method of claim 1 where the second principal component or principal factor decomposition is performed using eigenvalue eigenvector decomposition.

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6.    (Currently Amended) A <u>computer implemented</u> method for statistical modeling and
      simulation of the impact of global variation and local mismatch on the performance of
      integrated circuits, wherein said method is integrated in a statistical design and
      optimization computer aided design tool to perform statistical simulation of joint and
      separate impact of global variation and local mismatch on performance of integrated
      circuits and said method comprises the steps of:

      (a)    estimating a representation of component mismatch from device performance
             measurements in a form suitable for circuit simulation;

      (b)    reducing the complexity of statistical simulation by performing a first level
             principal component or principal factor decomposition of global variation,
             including screening;

      (c)    further reducing the complexity of statistical simulation by performing a second
             level principal component decomposition including screening for each factor
             retained in step (b) to represent local mismatch; and

      (d)    performing statistical simulation with the joint representation of global variation
             and local mismatch obtained in step (c).

Claims 7 to 8 (Canceled)

9.    (Original): The method of claim 6 where the first principal component or principal factor
      decomposition is performed using eigenvalue eigenvector decomposition.

10.   (Original): The method of claim 6 where the second principal component or principal
      factor decomposition is performed using eigenvalue eigenvector decomposition.

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